

Horticulture Tips

August 2013

Oklahoma Cooperative Extension Service
Division of Agricultural Sciences and Natural Resources
Oklahoma State University

GARDEN TIPS FOR AUGUST!

David Hillock, Consumer Horticulturist

Vegetables

- August is a good month to start your fall vegetable garden. Bush beans, cucumbers and summer squash can be replanted for another crop. Beets, broccoli, carrots, potatoes, lettuce and other cool-season crops can also be planted at this time. ([HLA-6009](#))
- Soak vegetable seed overnight prior to planting. Once planted, cover them with compost to avoid soil crusting. Mulch to keep planting bed moist and provide shade during initial establishment. Monitor and control insect pests that prevent a good start of plants in your fall garden.

Fruit and Nut

- Continue protective insect applications on the fruit orchard. A good spray schedule is often abandoned too early. Follow directions on last application prior to harvest. ([EPP-7319](#))

Flowers

- Towards the end of the month, divide and replant spring-blooming perennials like iris, peonies and daylilies if needed.

General

- Water compost during extremely dry periods so that it remains active. Turn the pile to generate heat throughout for proper sterilization.
- Always follow directions on both synthetic and natural pesticide products.
- Watch for high populations of caterpillars, aphids, spider mites, thrips, scales and other insects on plant material in the garden and landscape and treat as needed. ([EPP-7306](#))
- Water all plants thoroughly unless rainfall has been adequate. It is better to water more in depth, less often and early in the morning.

Trees and Shrubs

- Discontinue deadheading roses by mid-August to help initiate winter hardiness.
- Watch for 2nd generation of fall webworm in late August/early September. Remove webs that enclose branches and destroy; or spray with good penetration with an appropriate insecticide.

Lawn and Turf

- Grassy winter weeds like *Poa annua*, better known as annual bluegrass, can be prevented with a preemergence herbicide application in late August. Water in the product after application. ([HLA-6420](#))
- Areas of turf with large brown spots should be checked for high numbers of grubs. Mid-to-late August is the best time to control heavy white grub infestations in the lawn. Apply appropriate insecticide if white grubs are a problem. Water product into soil. ([EPP-7306](#))
- Tall fescue should be mowed at 3 inches during the hot summer and up to 3½ inches if it grows under heavier shade. ([HLA-6420](#))
- For areas being converted to tall fescue this fall, begin spraying out bermudagrass with a product containing glyphosate in early August. ([HLA-6419](#) & [HLA-6421](#))
- Irrigated warm-season lawns can be fertilized once again; apply 0.5 lb N/1,000 sq ft in early to mid-August.
- Brown patch of cool-season grasses can be a problem. ([HLA-6420](#))

Establishing a Fall Garden

David Hillock

Some of the best quality garden vegetables in Oklahoma are produced and harvested during the fall season when warm, sunny days are followed by cool, humid nights. Under these climatic conditions, plant soil metabolism is low; therefore, more of the food manufactured by the plant becomes a high-quality vegetable product.

Successful fall gardening begins much earlier than the fall season. Factors to be considered are adequate soil preparation, available garden space, crops to be grown, space for each crop, varieties to use, and obtaining the quantity and varieties of seed.

Climatic conditions of August involve high soil temperature, high light intensity, and rapid drying of the soil, resulting in an increase in the problems of obtaining a uniform stand of plants. Achieving a full stand of plants in the heat of summer may require special treatments. This might include shade over rows when seeded and supplemental watering to reduce soil temperature and aid in seed germination.

Viable seed, in order to germinate or sprout, must have the proper temperature, adequate moisture, and sufficient oxygen. The surface of the soil, when exposed to the summer sun, may become very hot (140°F or 60°C). Vegetable seeds should be planted no deeper than three times the diameter of the seed. With small seed such as carrot, this would be no more than 1/4 inch deep. At this depth and exposed in the hot soil, death of the seed due to high temperature would probably occur. It is also likely that such a soil, even when watered, might dry out quickly because of the high temperature. Unless the soil remains moist at the depth where the seeds have been planted, germination will not take place.

In order to achieve proper temperature and adequate moisture, apply mulch over the row following planting and watering or use materials such as screen wire strips, shade cloth or boards

to cover the row. This will moderate both soil temperature and soil moisture. Remove covers after seedling emerges.

Another desirable practice is to open the soil for the row somewhat deeper than in spring planting. The seeds are planted in this furrow, covered and watered. In this manner, only the narrow trench would be watered, thus conserving a limited water supply. Later, one may cultivate along the sides of the row and fill soil to the same level of the remainder of the garden. In so doing, one may cover small grass and weed plants that might be growing in the row.

Some vegetables are most easily grown by planting seeds in a small seed flat, setting them in individual containers to grow for approximately one month, and then transplanting them to the garden. Those that respond most favorably to this method of handling include broccoli, cauliflower, Chinese cabbage, leaf lettuce, Brussels sprouts and cabbage.

Prior to setting them in the garden, transplants may be conditioned or toughened by a reduction in the amount of water supplied and by exposure to full sunlight. This might require three to five days. Plant them in the garden in late afternoon to early evening to reduce transplanting shock. As they are set, water the plants using a starter solution.

To achieve maximum germination of lettuce seed, the planted and watered seed flat should be kept cool. This can be accomplished by placing the seed flat in a cool (60° to 70°F) location for four or five days, at which time seed may begin germinating. The seedlings should be transplanted to individual containers within a few days.

Fall Gardening Suggestions:

- Seeds left over from planting the spring garden may be used in planting the fall garden if the seed is stored in a cool, dry location or in a refrigerator or freezer.
- Seeds that are stored in the freezer properly should remain viable for many years. Immediately following planting, return surplus seed to the freezer.
- In order to get early established growth, supplemental irrigation is desirable. Most vegetable crops will benefit from supplemental irrigation. Information on drip irrigation may be available from garden centers and county Extension centers. This technique allows an efficient method of irrigation.
- In order to conserve on water usage, water only the furrows or rows and wait for rainfall for general watering.
- Soak seeds overnight for planting (except beans and peas). This will hasten germination and seedling emergence when soil drying is most critical to plant growth.
- Cover seeded rows to reduce soil temperature and drying.

Fall Planting Guide

Table 1. Tender Vegetables - (harvest before frost*). Many varieties will do well – select varieties that are early maturing and disease resistant.

Kind	Time to plant	Method of Planting	Between Rows (inches)	In the Row (inches)	Depth to Cover Seed (inches)	Days from planting to Harvest
Beans, Bush	Aug. 10-20	Seed	18-24	3-6	1	50-60
Beans, Cowpea	July 15 – Aug. 1	Seed	18-48	6-12	1.5	75
Beans, Pole	July 15-30	Seed	24-36	12-18	1	60-70
Beans, Lima	Aug 10-20	Seed	18-24	4-8	1	70-80
Cilantro	July 15–Aug 1	Seed	9	4	.5	When plant is 4-6 in. tall
Corn, Sweet ³	July 15	Seed	36	12-18	1	80-100
Cucumber	Aug 10-20	Seed or Plants ²	36-32	12-30	.5 to .75	60-70
Eggplant	July 15	Plants	36	18	-	80-90
Pepper	July 15	Plants	36	24	-	90-110
Pumpkin	July 15-30	Seed or Plants ²	36-60	30-48	1	100-120
Summer Squash	July 15- Sept. 1	Seed or Plants ²	36	24-36	1	40-50
Winter Squash	July 15-30	Seed or Plants ²	36-48	30-48	1	100-120
Tomatillo	July 15	Plants	48	24-36	-	90-100
Tomato	July 1–15	Plants	48	24-36	-	70-90

* Unless using a cold frame or row covers to extend the season.

1 = There may be advantages to planting earlier if soil moisture and climatic conditions are favorable.

2 = Set plants into the garden 1 to 1 1/2 months after planting the seed.

3 = Be vigilant about scouting for fall armyworms in whorl of seedlings and young plants.

Table 2. Semi-hardy vegetables - (may continue to grow and be harvested after several frosts). Many varieties will do well – select varieties that are early maturing and disease resistant.

Kind	Time to Plant	Method of Planting	Between Rows (inches)	In the Row (inches)	Depth to Cover Seed (inches)	Days from planting to Harvest
Beet	Aug 1-15	Seed	12-18	3-4	.5-.75	60-70
Broccoli	July 15- Aug 15	Plants	18-30	16-20	-	70-80
Brussel Sprouts	July 15- Aug 15	Plants	18-30	16-20	-	90-100
Cabbage	Aug 1-25	Plants	18-24	16-20	-	75-90
Chinese Cabbage	Aug 1-25	Seed or Plants ¹	12-16	10-18	.5	75-90
Carrots	July 15- Aug 15	Seed	12-18	1-2	.25	70-80
Cauliflower	Aug 1-25	Plants	18-24	16-20	-	70-80
Collards	Aug 1- Sept 1	Seed or Plants ¹	30-36	18-24	.5	75-85
Garlic	Sept 1-Oct. 15	Bulbs (cloves)	12	4	2	Early June the following year
Irish Potato	Aug 1-15	Seed potatoes	30-42	10-16	2	90-110
Kale	Sept. 1	Plants	24-36	18	-	50-65
Kohlrabi	Sept. 1	Plants	18-24	4-6	-	50-70
Leaf Lettuce	Aug 1-15	Seed or Plants ¹	12-18	2-3	.25	60-70
Leek	Sept. 1	Seed or Plants ¹	12-24	2-4	.5	Late spring the following year
Mustard	Sept. 10- Oct 10	Seed	12-18	2-3	.5	40-50
Onions	Sept. 1	Seed, Sets, or Plants ¹	12-18	4	.25	Late spring the following year
Parsnip	July 15-Aug 15	Seed or Plants ¹	12-18	4-6	.25	120
Peas, green	Aug 15-Sept. 1	Seed	36	2	2	60-90
Radish	Aug 15- Oct 10	Seed	8-12	.75-1	.5	20-40
Rutabaga	Aug 15- Sept 15	Seed	24-36	3-4	.5	80-90
Spinach	Sept 5-25	Seed	8-12	1-2	.5	50-60
Swiss Chard	Aug 1- Sept 15	Seed	24-30	2-3	.5	50-60
Turnip	Aug 1- Sept 15	Seed	12-24	2-3	.5	50-60

1 = Set plants into the garden 1 to 1 1/2 months after planting the seed.

Note: If planting or sowing into cold frames, plant two weeks later than date indicated. With our abundant winter sunshine, be sure to allow for ventilation. Also, check frequently for pests – especially aphids.

For more information see OSU Extension Fact Sheet [HLA-6009 Fall Gardening](#).

Root Rot Disease in the Landscape

Kim Toscano, Oklahoma Gardening Host

Many plant pathogens inhabit the soil and they are often favored by wet soil conditions. One group of root rot pathogens are known as the water molds because they are most severe in wet and poorly drained soils. Two of the groups of pathogens in this group are species of *Phytophthora* and *Pythium*. There are other types of root rot pathogens, but we will focus on these today.

Diagnosing root rot can be difficult because we do not examine the root system of plants on a daily basis. The aboveground symptoms that are observed may include wilting, dieback, poor vigor, yellowing, leaf drop, stunting and/or a general unthriftness of the plant. If any of these symptoms are observed, the grower should address any possible issues such as insect problems, poor fertility or inadequate irrigation. Once these factors have been ruled out, it's time to dig a little deeper. Literally.

Growers should carefully dig the soil out around the plant roots to examine them. Note if the soil seems especially wet or dry. Sometimes growers will find that there is a foul odor that can be associated with anaerobic soil conditions and/or decay.

Healthy roots should be abundant and young roots are light colored. The roots of shrubs and trees will become woody and darker over time as a normal process. Touch the roots to confirm that they are firm and they are not breaking apart.

If the root system appears sparse, discolored or if the roots are softened, it is likely that a root rot problem has developed. If the client would like to have the plant tested to determine the exact pathogen responsible, they will need to remove an entire plant that is in decline, but not dead. Some of the soil associated with the roots should be included and the entire root system should be placed in a plastic bag. The grower should seal the bag with tape or a rubber band at the soil-line to prevent soil from contaminating the foliage. The entire plant can be loosely wrapped in a larger plastic bag such as a trash bag and sent for diagnostic testing.

With problems due to *Phytophthora* and *Pythium*, it is critical to remove and discard plants and associated soil in the trash as soon as possible. It is best to leave the area fallow (no plants) and to occasionally turn the soil. It is helpful to use soil solarization to reduce the number of propagules in the soil. The addition of organic matter may be helpful and in studies, has shown to reduce the level of propagules of *Pythium* and *Phytophthora* in the soil. In planting beds, it is critical to have soil that is well drained and to avoid overwatering. Growers may need to amend planting beds to improve drainage. Planting on slightly raised hills or digging a trench can help redirect water away from plants. In many cases, downspouts can be redirected to reduce water flowing into planting beds.

If growers immediately replant into contaminated beds, it is best to select plant material that is resistant or tolerant to *Phytophthora*. *Pythium* is less aggressive and in most cases, the cultural

methods listed above will adequately manage the problem. In general, we do not recommend fungicides for treating root rot problems in the landscape.

Please review the fact sheet at the link below that provides suggested plant material for replanting.

http://www.cals.ncsu.edu/plantpath/activities/societies/ornamental/AG-747_Crown%20Rot.pdf

Drip Irrigation System for Container Plants

Morgan Hopkins, Graduate Research Assistant

Gardening can be much like raising children, or having a pet; the more attention you show, the better the behavior. When it comes to irrigation and plants, nothing could be more true than showing enough attention. With drought conditions, container, or potted, plants have less soil volume and less access to water that would be available in the ground. Maintaining adequate irrigation for container plants is essential to the success of a healthy plant, especially in drier conditions.

Various irrigation systems exist to meet the needs of container plants. Drip irrigation is a simple system that efficiently waters plants by applying water where it is needed most, at the very roots of plants. Aside from being simple and efficient, there are numerous benefits to installing a drip irrigation system for container plants. Drip systems allow for the plants to get a deep and consistent watering, thus promoting healthy growth and disease resistance in plants. This type of system reduces the chance for evaporation and runoff, as well as water that could be wasted on the leaves or soil. Drip systems help to save money and energy, as well as reduce the amount of maintenance required in irrigating.

Much to a gardener's initial thought, drip irrigation systems can be simple to install for container plants. Drip kits are sold at garden supply stores for about \$40, and can be connected directly to a faucet or existing water supply. Standard drip kits include stakes, drip emitters, backflow preventer, valve for hose or faucet hookup, adapters and polyethylene microtubing. Drip kit contents will vary on the complexity of the system you desire. Additional components to drip systems include a Y valve, which allows an additional hookup to the faucet or hose, as well as a quick coupler to hook up to the Y valve. Inexpensive battery timers or single mechanical timers can be purchased and hooked up to the Y valve to avoid over-watering the containers. Typical containers can be watered between 5-15 minutes, depending on the size of container and soil type, which will affect filtration of the soil. Once the timer is attached to the faucet, the adapter connects to the timer, followed by the microtubing. The microtubing is then attached to the stakes, which are placed into the soil of the container plant. If multiple container plants are hooked up to the same drip system, T valves can be used to connect the microtubing to the multiple containers.

When considered raising some plants, drip irrigation systems are a superb method of water conservation and smart gardening. These systems are a great way to save water and money when fighting off the woes of drought conditions.

Irrigation Checklist

Malarie Gotcher, Extension Associate and Justin Quetone Moss, Assistant Professor

Water is essential for plant photosynthesis, nutrient transport and transpiration. Proper irrigation management maintains healthy plants while also conserving a limited resource. Overwatering turfgrass may lead to reduced root growth, an excessive thatch layer, and can potentially cause disease problems. Establishing a periodic maintenance schedule will prevent water waste while also supporting healthy plant growth. The following checklist is intended to assist homeowners with automatic irrigation systems.

Sprinkler types in each zone are the same

- Mismatched sprinkler heads reduce uniformity and cause wet and dry spots in the yard. The widely fluctuating precipitation rates lead to over watering to compensate for dry areas. Replace mismatched heads with the appropriate type of sprinkler head. Consult an irrigation professional to ensure proper design.

Irrigation system has head to head coverage

- The output from a sprinkler head should cover the area to the adjacent sprinkler head. The amount of water applied decreases as the distance from the sprinkler head increases. Head to head coverage ensures uniformity throughout the yard and reduces the need to compensate for dry areas in the yard.

The irrigation system pressure is compatible with the sprinkler heads

- Misting or a steady stream of water with large droplet size indicates high and low pressure. Misting wastes up to 50% of water applied during an irrigation event. Low pressure leads to poor water distribution and dry spots in the yard. Sprinkler types perform efficiently under a specific pressure range. Check manufacturer specifications to ensure the system is effectively applying the correct amount of water.

Know how much water the plant needs

- The term evapotranspiration (ET) combines evaporation and plant transpiration or how much water the plant uses for metabolic processes. In Oklahoma, the most widely used warm-season grass is bermudagrass and the majority of cool-season grass is tall fescue. Warm-season grasses have a lower ET rate and therefore require less water than cool-season grasses. Warm-season grasses can survive on natural precipitation in many areas of Oklahoma, but may require 1-2 inches of irrigation during the summer to maintain green color. Similarly, cool-season grasses may require up to 3 inches of irrigation water or more during the summer to maintain green color. Also apply irrigation water according to soil moisture and plant need. ET data can be found for locations across Oklahoma on the SIP Mesonet website at sip.mesonet.org.

Periodically check and adjust sprinklers to only water the landscape

- Properly adjusted irrigation systems should only water the landscape. Sidewalks, streets and other hardscapes should not be watered.

Irrigation has proper zones

- Irrigation zones should be designed based on the water requirement of the plant. Separate the zones based on the type of plants in the area. Plants have different rooting depths which should be considered when watering.

- Trees rooting depth of 18-36 inches - They require less frequent but deep watering.
- Shrubs rooting depth of 12-24 inches - Shrubs and trees are better irrigated with drip or micro-spray irrigation.
- Herbaceous plants and turgrasses rooting depth of 6-12 inches - Turf areas are better suited for sprinkler irrigation.
- Consider the sun and wind exposure. Plants in full sun require more water than plants in shade. Determine the type of soil. Sandy soils drain quickly relative to clay soils and may need to be watered more often.

Irrigation for Newly Planted Trees

John Schroeder, Extension Associate

Trees can be thought of as a large investment in the landscape in terms of cost, size and visual impact. Newly planted trees that were installed during the previous fall or spring season can often become drought-stressed during the mid to late summer months. This drought stress on young plants can result in poor root system establishment and affect the growth and overall structure of the tree.

It is very important to keep the soil ball containing the roots moist until the roots are able to reach out and become established in the surrounding native soil. This typically requires low volume watering over extended periods of time. Take extra care and attention to avoid ponding water that will eventually drown the plant, particularly in heavy clay soils. A method often used is applying water by letting a garden hose trickle at the base of the tree for a certain amount of time. Problematic issues of this single source water application include the fact that the water is not evenly distributed to the root ball through the soil profile as well as no good estimate to how much volume of water is applied. Both of these failures will lead to oversaturation of certain portions of the root ball while other portions receive little to no water. A more effective way to establish a newly planted tree by ensuring it gets proper watering is using some type of drip irrigation.

Something as simple as a soaker hose forming a loop around the top of the root ball with a battery powered electronic timer valve on the hose faucet can greatly improve your irrigation distribution through the soil profile down to the root ball. A good rule of thumb with estimating tree root range is to use the width of the tree canopy to find the approximate width of the roots below the soil. Although more mature trees' roots can extend far beyond the canopy drip line, this method is effective with younger trees in early growing seasons. More sophisticated drip irrigation systems can be installed to increase water efficiency even more. Using emitters and a more intricate looping system, the volume of water delivered and its distribution can be more closely regulated, saving water as well as ensuring appropriate needs to the plant. Most garden stores can assist in providing the necessary supplies and supplemental product information on installing these types of systems. More complicated irrigation needs for multiple watering zones and times may require the service of a trained professional.

One of the most important things to recognize with establishing new trees through proper watering is the importance of a slow, deep watering across the entire root zone to establish a healthy root system. Trees that survive off irrigation from surrounding turf areas will grow a majority of roots in the upper six inches of the soil profile since this is where most of the soil moisture from irrigation is contained. A deep-soaking, less frequent watering schedule for trees will cause tree roots to grow deep into the profile, establishing a healthy root system and giving the tree an advantage to find subsoil moisture during drought.

Growing Fall Irish Potatoes

David Hillock

If seed potatoes are available and space permits, potatoes are a desirable supplement to the fall and winter food supply. Yields are usually lower than from spring-planted potatoes, but proper storage is much easier to provide and potato quality is excellent.

The practice of using potatoes from the fresh produce counter for planting purposes is not recommended. This kind of material frequently does not produce adequate growth and is considerably lower in yield.

One of the problems is getting a stand of plants early enough to produce a crop before fall frosts. This emphasizes the need to use matured, medium-to-large potatoes that require cutting into 1 or 1 1/2 ounce size seed pieces.

Cut potatoes should be allowed to cure three to five days before planting, and they should be stored under cool (45° to 65°F) conditions during curing.

In order to have a more favorable (cooler) soil at planting time, deep furrows may be opened in the late afternoon, seed pieces planted, covered with two inches of soil, watered, and mulched with straw or other available organic material. This should provide more favorable conditions for growth.

Upcoming Horticulture Events

Turfgrass, Nursery and Landscape Field Day

September 18, 2013

The Botanic Garden at OSU – Stillwater, OK

GardenFest

September 21, 2013

10 AM to 4 PM

The Botanic Garden at OSU – Stillwater, OK

Join us at The Botanic Garden at OSU for our annual GardenFest. The theme for 2013 is "Art in the Garden". GardenFest is a fun filled day of art and gardening ideas, demonstrations, children's activities and merchandise.

Native Plant Materials for Oklahoma and Surrounding Environs Conference

October 10, 2013

Wes Watkins Center – Stillwater, OK

This conference will be team-taught by university and green industry professionals. Plant materials well suited for Oklahoma and peripheral areas will be discussed. Only plants native to the Lower 48 will be highlighted at this event.

Native American Horticulture Conference

November 21, 2013

Wes Watkins Center – Stillwater, OK

This conference will provide a horticulture overview of Native Americans' contribution to both historical and current-day foods, ornamentals and medicine.

For more information about upcoming events, please contact Stephanie Larimer at 405-744-5404 or stephanie.larimer@okstate.edu.